COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

CASE NO. PUR-2022-00183

For approval and certification of electric transmission facilities: 500-230 kV Wishing Star Substation, 500 kV and 230 kV Mars-Wishing Star Lines, 500-230 kV Mars Substation, and Mars 230 kV Loop

REPORT OF ALEXANDER F. SKIRPAN, JR., CHIEF HEARING EXAMINER

March 6, 2023

The Company proposed to construct the proposed Project to address projected violations of NERC Reliability Standards beginning in the summer 2025, and to meet the significant increase in electrical demand and expected demand growth in Loudoun County, Virginia. Staff investigated the Company's Application and agreed to both the need for the Project and the Company's recommended routes. Respondent DCC highlighted the importance of data centers and the need for the Project. Brambleton, a developer of several properties in the vicinity of the Project, supported the Company's proposed routes. The Company agreed with all but two of the recommendations in the DEQ Report, and offered two additional clarifications. Based on the record, I recommend that the Commission grant the Application and issue a CPCN for the Project. In regard to the DEQ Report, I agree with the Company regarding its two recommendations and two clarifications.

HISTORY OF THE CASE

On October 27, 2022, Virginia Electric and Power Company ("Dominion Energy" or "Company") filed an application with the State Corporation Commission ("Commission") for approval and certification of electric facilities in Loudoun County, Virginia ("Application"). Dominion Energy filed its Application pursuant to § 56-46.1 of the Code of Virginia ("Code") and the Utility Facilities Act.[1]

On December 2, 2022, the Commission issued its Order for Notice and Hearing in which, among other things, the Commission: (i) scheduled a telephonic hearing for February 27, 2023, at 10 a.m. to receive the testimony of public witnesses; (ii) scheduled a public hearing for February 28, 2023, at 10 a.m.; (iii) directed the Company to provide notice to the public;[2] (iv) provided interested persons an opportunity to comment on the Company's Application; and (v) appointed a Hearing Examiner to conduct all further proceedings in this matter on behalf of the Commission and to file a final report.

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[1] Code § 56-265.1 *et seq.* ("Utility Facilities Act").

[2] On December 6, 2022, the Commission issued its Order *Nunc Pro Tunc*, which corrected Ordering Paragraph (9) of the December 2, 2022 Order for Notice and Hearing to require newspaper publication of the prescribed notice in newspapers of general circulation in Loudoun County only.

On December 20, 2022, Dominion Energy filed its Motion for Modification of Ordering Paragraph (20) of the Order for Notice and Hearing Dated December 2, 2022, and for Expedited Consideration in which the Company requested that the time for responses and objections to written interrogatories and requests for production of documents be changed from within five calendar days to within five business days. The Company's motion was granted in a Hearing Examiner's Ruling dated December 21, 2022.

On December 21, 2022, Dominion Energy filed its Motion for Entry of a Protective Ruling. Procedures for handling confidential information were adopted in a Hearing Examiner's Protective Ruling dated December 22, 2022.

On December 22, 2022, Brambleton Group, LLC ("Brambleton") filed its notice of participation. On January 12, 2023, the Data Center Coalition ("DCC") filed its notice of participation.

On January 4, 2023, as prescribed by Ordering Paragraphs (11) and (12) of the Commission's Order for Notice and Hearing, Dominion Energy filed proof of notice and certificate of mailing as required by Ordering Paragraphs (8), (9), and (10) of the Commission's Order for Notice and Hearing.[3]

On January 10, 2023, Dominion Energy made an errata filing, revising page 35 of the Appendix to the Application, which includes Revised Attachment 1.C.2.

On January 23, 2023, the Department of Environmental Quality ("DEQ") provided its coordinated review of the environmental information contained in the Application ("DEQ Report").[4]

During this proceeding, three public comments were filed. David Specht opposed overhead transmission lines.[5] Janet and Kim Hannemann filed a comment in support of the proposed Route 5.[6] Carla Burleson of Loudoun Water filed comments expressing concern regarding the impacts of Dominion Energy's proposed construction on Loudoun Water's large diameter water and sewer mains.[7]

On January 27, 2023, Brambleton filed its direct testimony.

On January 30, 2023, Commission Staff ("Staff") filed its direct testimony.

On February 13, 2023, Dominion Energy filed its rebuttal testimony.

No persons signed up to testify as a public witness and pursuant to Ordering Paragraph (5) of the Commission's Order for Notice and Hearing, the public witness hearing

[3] Exhibit No. 1.
[4] Exhibit No. 10.
[5] Comments filed on December 5, 2022.
[6] Comments filed on December 6, 2022.
[7] Comments filed on February 1, 2023.

scheduled for February 27, 2023, was canceled. On February 28, 2023, a hearing for this matter was convened in-person in the Commission's courtroom as scheduled. Vishwa B. Link, Esquire, and Anne Hampton Haynes, Esquire, of McGuireWoods LLP; and David J. DePippo, Esquire, and Annie C. Larson, Esquire, of Dominion Energy Services, Inc. appeared on behalf of the Company. William T. Reisinger, Esquire, of ReisingerGooch, PLC, appeared on behalf of DCC. Stephen J. Clarke, Esquire, of Waldo & Lyle, PC, appeared on behalf of Brambleton. William Harrison, IV, Esquire, Michael Zielinski, Esquire, and Sean Barrick, Esquire, appeared on behalf of Staff.

SUMMARY OF THE RECORD

In its Application, Dominion Energy stated "in order to relieve identified violations of mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards beginning in the summer 2025 timeframe brought on by [a] significant increase in electrical demand as well as expected demand growth projected for the future, and to maintain the structural integrity and reliability of its transmission system, [Dominion Energy] proposes in Loudoun County, Virginia to [construct] . . . [t]he Wishing Star Substation, Mars-Wishing Star Lines, Mars Substation, Mars 230 [kilovolt ("kV")] Loop and related substation work . . ." (collectively the "Project").[8] More specifically, the Company proposed the following:

> (i) Construct a new 500-230 kV substation in Loudoun County, Virginia, within existing Company-owned right-of-way [("ROW")] and on property obtained by the Company ("Wishing Star Substation"). The 500-230 kV source to the Wishing Star Substation will be created by cutting the Company's existing 500 kV Brambleton-Mosby Lines #546 and #590 into the Wishing Star Substation at Structures #546/26 and #590/1893 just south of the Company's existing Brambleton Substation. The tie-in of Lines #546 and #590 to the Wishing Star Substation will result in (i) 500 kV Brambleton-Wishing Star Line #589, (ii) 500 kV Brambleton-Wishing Star Line #501, (iii) Mosby-Wishing Star Line #546, and (iv) Mosby-Wishing Star Line #590.
>
> (ii) Construct a new approximately 3.55-mile overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt on predominantly new [ROW]. The new transmission lines will originate at the 500 kV and 230 kV buses of the proposed Wishing Star Substation and continue east to the proposed 500-230 kV Mars Substation, resulting in (i) 500 kV Mars-Wishing Star Line #527, and (ii) 230 kV Mars-Wishing Star Line #2291 (the "Mars-Wishing Star Lines"). From the proposed Wishing Star Substation, the Mars-Wishing Star Lines will extend generally east to the proposed Mars Substation, where the Mars-Wishing Star Lines

[8] Exhibit No. 2, at 2,

will terminate. The proposed Mars-Wishing Star Lines will be constructed on new [ROW] predominantly 150 feet in width (approximately 2.67 miles of the 3.55-mile total length) to support a 5/2 configuration primarily on dulled galvanized steel double circuit three-pole or two-pole H-frame structures. The new 500 kV line will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 [megavolt amperes ("MVA")]; the new 230 kV line will utilize three-phase twin-bundled 768.2 ACSS/TW/HS type conductor with a summer transfer capability of 1,573 MVA.

(iii) Construct a new 500-230 kV substation in Loudoun County, Virginia, on property obtained by the Company ("Mars Substation").

(iv) Construct two new approximately 0.57-mile overhead 230 kV double circuit lines on two sets of double circuit structures from Mars Substation to cut in locations on the Company's existing 230 kV Cabin Run-Shellhorn Road Line #2095 and 230 kV Poland Road-Shellhorn Road Line #2137, between Structures #2095/72 / #2137/82 and #2095/73 / #2137/83 resulting in (i) 230 kV Cabin Run-Mars Line #2287, (ii) 230 kV Celestial-Mars Line #2261, (iii) 230 kV Mars-Shellhorn Road Line #2095, and (iv) 230 kV Mars-Sojourner Line #2292 (the "Mars 230 kV Loop"). Where the Mars 230 kV Loop cuts into Lines #2095 and #2137, two new two-pole double circuit structures will be installed within existing [ROW] in order to loop the new lines into the Mars Substation and then back to the existing Lines #2095/#2137 corridor. While the cut-in location is within existing [ROW], the proposed Mars 230 kV Loop will be constructed on new 160-foot wide [ROW] supported by a combination of dulled galvanized steel double circuit monopoles and two-pole structures situated side-by-side in the [ROW] and will utilize three-phase twin-bundled 768.2 ACSS/TW type conductor with a summer transfer capability of 1,573 MVA.

(v) Conduct line protection upgrades at the Company's existing remote end substations, including the Company's existing Brambleton, Cabin Run, Mosby, and Shellhorn Road Substations, as well as the future Celestial and Sojourner Substations.[9]

For the Mars-Wishing Star Lines, the Company identified an approximately 3.55-mile overhead proposed route ("Mars-Wishing Star Lines Proposed Route" or "Route 5" or "Proposed

[9] *Id.* at 2-5 (footnotes omitted).

Route") and five overhead alternatives ("Mars-Wishing Star Lines Alternative Routes 1, 2, 3, 4, and 6").[10] The Proposed Route and each of the Mars-Wishing Star Lines Alternative Routes are described below:

Proposed Route 5:

This route would construct an overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt between the proposed Wishing Star Substation and the proposed Mars Substation. The Proposed Route is approximately 3.55 miles in length. Beginning at the proposed Wishing Star Substation, Route 5 travels east for about 0.3 mile along the south side of Broad Run before crossing a future Virginia Department of Transportation ("VDOT") [ROW] associated with the Northstar Boulevard extension project. The Proposed Route then continues east for 0.3 mile along an undeveloped parcel before crossing Belmont Ridge Road and paralleling the south side of the Company's existing [ROW] of Lines #2172 and #2183. Continuing along an undeveloped parcel for 0.5-mile, the route then turns north to cross the Company's existing [ROW] then east to parallel the north side of the existing [ROW]. For approximately 0.5 mile, the route continues east along Broad Run, paralleling the north side of the existing [ROW].

Prior to crossing Loudoun County Parkway, the Proposed Route turns slightly northeast away from the existing [ROW] to avoid land owned by the Metropolitan Washington Airports Authority ("MWAA"). After crossing Loudoun County Parkway, the Proposed Route turns southeast for 0.3 mile along the southwestern edge [of an] undeveloped parcel before rejoining the existing [ROW] for Lines #2137 and #2213. The route continues 0.2 mile across NOVEC-owned land before crossing Old Ox Road and spanning the Company's Lines #2137 and #2213. The Proposed Route then continues southeast for 0.7 mile across a surface parking lot, paralleling the north side of MWAA's West Perimeter Road.

Approximately 0.2 mile west of the proposed Mars Substation, the Proposed Route splits into two separate [ROWs], one for the 500 kV line and the other for the 230 kV line. The 500 kV [ROW] turns east for 0.2 mile before crossing Carters School Road and terminating on the west side of the proposed Mars Substation. The 230 kV [ROW] continues southeast for 0.3 mile before crossing Carters School Road and turning north to terminate on the south

[10] *Id.* at 5.

side of the proposed Mars Substation.[11]

Alternative Route 1:

This route would construct an overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt between the proposed Wishing Star Substation and Mars Substation. Alternative Route 1 is approximately 3.63 miles in length.

Beginning at the proposed Wishing Star Substation, Alternative Route 1 travels east for about 0.3 mile along the south side of Broad Run before crossing a future VDOT [ROW] associated with the Northstar Boulevard extension project. Alternative Route 1 continues east for 0.3 mile along an undeveloped parcel before crossing Belmont Ridge Road. After crossing Belmont Ridge Road, Alternative Route 1 parallels the south side of the Company's existing [ROW] for Lines #2172 and #2183 for 0.2 mile on an undeveloped parcel. Alternative Route 1 then turns north, crossing the existing [ROW] and Broad Run, and continues another 0.2 mile onto an undeveloped parcel. Route 1 then turns east for 0.5 mile along the south side of a stormwater detention pond before turning slightly to the northeast. Alternative Route 1 heads northeast for 0.3 mile and crosses a parcel dedicated as an open space proffer for the Brambleton Community Association.

At a point just south of the intersection of Evergreen Mills Road and Loudoun County Parkway, Alternative Route 1 crosses Loudoun County Parkway before turning southeast and continuing across Broad Run. Alternative Route 1 continues southeast along the southwestern edge of an undeveloped tract for 0.3 mile, rejoining the Company's existing [ROW] for Lines #2137 and #2213. Alternative Route 1 then continues 0.2 mile across NOVEC-owned land before crossing Old Ox Road and spanning the Company's Lines #2137 and #2213. Alternative Route 1 continues southeast for 0.7 mile across a surface parking lot, paralleling the north side of MWAA's West Perimeter Road.

Approximately 0.2 mile west of the proposed Mars Substation, Alternative Route 1 splits into two separate [ROWs], one for the 500 kV line and the other for the 230 kV line. The 500 kV [ROW] turns east for 0.2 mile before crossing Carters School Road and terminating on the west side of the proposed Mars Substation. The 230 kV [ROW] continues southeast for 0.2 mile before crossing Carters School Road, then turns north to terminate on the south

[11] *Id.* Appendix at 122-23.

side of the proposed Mars Substation.[12]

Alternative Route 2:

This route would construct an overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt between the proposed Wishing Star Substation and Mars Substation. Alternative Route 2 is approximately 3.64 miles in length.

Beginning at the proposed Wishing Star Substation, Alternative Route 2 travels east for about 0.3 mile along the south side of Broad Run before crossing a future VDOT [ROW] associated with the Northstar Boulevard extension project. The route continues east for 0.3 mile along an undeveloped parcel before crossing Belmont Ridge Road. After crossing Belmont Ridge Road, Alternative Route 2 parallels the south side of the Company's existing [ROW] for Lines #2172 and #2183 for 0.2 mile across an undeveloped tract. Alternative Route 2 then turns north, crossing Lines #2172 and #2183 and Broad Run, before continuing about 0.2 mile onto another undeveloped parcel. The route then turns east for 0.5 mile along the south side of a stormwater detention pond before turning to the southeast and crossing Broad Run again. After crossing Broad Run, Alternative Route 2 turns east for 0.3 mile to parallel the north side of the existing [ROW] for Lines #2137 and #2213.

Prior to crossing Loudoun County Parkway, Alternative Route 2 turns slightly northeast away from the Company's existing [ROW] to avoid land owned by MWAA. The route then turns southeast and continues about 0.3 mile along the southwestern edge of an undeveloped parcel before rejoining the existing Company's existing [ROW] for Lines #2137 and #2213. Alternative Route 2 then continues for 0.2 mile across NOVEC-owned land before crossing Old Ox Road and spanning the Company's Lines #2137 and #2213. The route continues southeast for 0.7 mile across a surface parking lot, paralleling the north side of MWAA's West Perimeter Road.

Approximately 0.2 mile west of the proposed Mars Substation, Alternative Route 2 splits into two separate [ROWs], one for the 500 kV line and the other for the 230 kV line. The 500 kV [ROW] turns east for 0.2 mile before crossing Carters School Road and terminating on the west side of the proposed Mars Substation. The 230 kV [ROW] continues southeast for 0.2 mile before crossing

[12] *Id.* Appendix at 125-26.

Carters School Road and turning north to terminate on the south side of the proposed Mars Substation.[13]

Alternative Route 3:

This route would construct an overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt between the proposed Wishing Star Substation and Mars Substation. Alternative Route 3 is approximately 3.62 miles in length.

Beginning at the proposed Wishing Star Substation, Alternative Route 3 travels east for about 0.3 mile along the south side of Broad Run before crossing a future VDOT [ROW] associated with the Northstar Boulevard extension project. Alternative Route 3 continues east for 0.3 mile along an undeveloped parcel before crossing Belmont Ridge Road and paralleling the south side of the Company's existing [ROW] for Lines #2172 and #2183. Continuing along an undeveloped parcel for 0.5-mile, Alternative Route 3 turns northeast for 0.7 mile, crossing the existing Company [ROW] for Lines #2172 and #2183, Broad Run, and a parcel dedicated as the open space proffer for the neighboring homeowners' association.

At a point just south of the intersection of Evergreen Mills Road and Loudoun County Parkway, Alternative Route 3 crosses Loudoun County Parkway before turning southeast and crossing Broad Run. Alternative Route 3 continues southeast for 0.3 mile along the southwestern edge [of an] undeveloped parcel before rejoining the existing [ROW] for Lines #2137 and #2213. The route continues 0.2 mile across NOVEC-owned land before crossing Old Ox Road and spanning the Company's Lines #2137 and #2213. Alternative Route 3 continues southeast for 0.7 mile across a surface parking lot, paralleling the north side of MWAA's West Perimeter Road.

Approximately 0.2 mile west of the proposed Mars Substation, Alternative Route 3 splits into two separate [ROWs], one for the 500 kV line and the other for the 230 kV line. The 500 kV [ROW] turns east for 0.2 mile before crossing Carters School Road and terminating on the west side of the proposed Mars Substation. The 230 kV [ROW] continues southeast for 0.2 mile before crossing Carters School Road and turning north to terminate on the south side of the proposed Mars Substation.[14]

[13] *Id.* Appendix at 127.
[14] *Id.* Appendix at 128-29.

Alternative Route 4:

This route would construct an overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt between the proposed Wishing Star Substation and Mars Substation. Alternative Route 4 is approximately 3.63 miles in length.

Beginning at the proposed Wishing Star Substation, Alternative Route 4 travels east for about 0.3 mile along the south side of Broad Run before crossing a future VDOT [ROW] associated with the Northstar Boulevard extension project. Alternative Route 4 continues east for 0.3 mile along an undeveloped parcel before crossing Belmont Ridge Road and paralleling the south side of the Company's existing [ROW] for Lines #2172 and #2183. Continuing along an undeveloped parcel for 0.5-mile, Alternative Route 4 turns northeast for 0.4 mile, crossing the existing Company [ROW], Broad Run, and an undeveloped parcel. The route then turns back to the southeast for 0.2 mile, again crossing Broad Run, then turns east for 0.3 mile to parallel the north side of the existing [ROW] for Lines #2137 and #2213.

Before crossing Loudoun County Parkway, Alternative Route 4 turns slightly northeast away from the existing [ROW] to avoid land owned by MWAA. The route then turns and continues southeast for 0.3 mile along the southwestern edge of an undeveloped parcel before rejoining the existing [ROW] for another 0.3 mile. Alternative Route 4 then continues 0.2 mile across NOVEC-owned land before crossing Old Ox Road and spanning the Company's Lines #2137 and #2213. The route continues southeast for 0.7 mile across a surface parking lot, paralleling the north side of MWAA's West Perimeter Road.

Approximately 0.2 mile west of the proposed Mars Substation, Alternative Route 4 splits into two separate [ROWs], one for the 500 kV line and the other for the 230 kV line. The 500 kV [ROW] turns east for 0.2 mile before crossing Carters School Road and terminating on the west side of the proposed Mars Substation. The 230 kV [ROW] continues southeast for 0.2 mile before crossing Carters School Road and turning north to terminate on the south side of the proposed Mars Substation.[15]

[15] *Id.* Appendix at 130.

Alternative Route 6:

> This route would construct an overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt between the proposed Wishing Star Substation and Mars Substation. Alternative Route 6 is approximately 3.56 miles in length.
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> Beginning at the proposed Wishing Star Substation, Alternative Route 6 travels east for about 0.3 mile along the south side of Broad Run before crossing a future VDOT [ROW] associated with the Northstar Boulevard extension project. Alternative Route 6 continues east for 0.3 mile along an undeveloped parcel before crossing Belmont Ridge Road and paralleling the south side of the Company's existing [ROW] for Lines #2172 and #2183. Continuing along an undeveloped parcel for 0.2-mile, Alternative Route 6 turns north to cross the existing Company [ROW] then turns east again to parallel the north side of the existing [ROW]. For approximately 0.9 mile, the route continues east along Broad Run, paralleling the north side of the existing [ROW].
>
> Prior to crossing Loudoun County Parkway, Alternative Route 6 turns slightly northeast away from the existing [ROW] to avoid land owned by MWAA. After crossing Loudoun County Parkway, Alternative Route 6 turns southeast and continues for 0.3 mile along the southwestern edge [of an] undeveloped parcel before rejoining the existing Company [ROW] for Lines #2137 and #2213. The route continues 0.2 mile across NOVEC-owned land before crossing Old Ox Road and spanning the Company's Lines #2137 and #2213. Alternative Route 6 continues southeast for 0.7 mile across a surface parking lot, paralleling the north side of MWAA's West Perimeter Road.
>
> Approximately 0.2 mile west of the proposed Mars Substation, Alternative Route 6 splits into two separate [ROWs], one for the 500 kV line and the other for the 230 kV line. The 500 kV [ROW] turns east for 0.2 mile before crossing Carters School Road and terminating on the west side of the proposed Mars Substation. The 230 kV [ROW] continues southeast for 0.2 mile before crossing Carters School Road and turning north to terminate on the south side of the proposed Mars Substation.[16]

The Company asserted:

> The Mars-Wishing Star Lines Proposed Route (Route 5) is the

[16] *Id.* Appendix at 131-32.

> shortest of all the Alternative Routes considered and would utilize the most existing Company-owned transmission [ROW], the same amount as Alternative Route 6. The Proposed Route impacts more forested land than Alternative Routes 1,2,3, and 4; however, by collocating along existing [ROW], the Proposed Route avoids forest and habitat fragmentation and multiple perpendicular crossings of Broad Run. Importantly, the Proposed Route would have substantially less impact on forested wetlands than all the other Alternative Routes.[17]

In addition, Dominion Energy maintained the Mars-Wishing Star Lines Proposed Route will have the least visual impact on identified visual sensitive resources ("VSRs"); and "would reasonably minimize adverse impacts on scenic assets, planned developments, forested wetlands, and recreation areas, while providing the greatest possible amount of collocation with Company-owned transmission [ROW]."[18]

As for the Mars 230 kV Loop, the Company advised that no route alternatives were identified.[19]

Dominion Energy stated "[t]he desired in-service target date for the proposed Project is December 31, 2025."[20] Thus, the Company requested a final order in this proceeding by April 25, 2023.[21] Dominion Energy estimated the cost of the Project, following the proposed routes, to be approximately $715.7 million, which includes approximately $157.2 million for transmission-related work and approximately $558.5 million for substation-related work.[22]

Dominion Energy's Direct Testimony

In support of its Application, Dominion Energy filed the direct testimony of Harrison S. Potter, Engineer III in Electric Transmission Planning for the Company; Matthew B. Vinson, Engineer III in the Electric Transmission Line Engineering Department of the Company; Santosh Bhattarai, Consulting Engineer in the Substation Engineering section of the Electric Transmission group of the Company; Laura P. Meadows, Electric Transmission Siting and Permitting Supervisor for the Company; and Jacob M. Rosenberg, Principal Consultant with Environmental Resource Management ("ERM"). A summary of the prefiled direct testimony of each witness is provided below.

Harrison S. Potter described "the Company's electric transmission system and the need for, and benefit of, the proposed Project."[23] Mr. Potter sponsored the following sections of the Appendix:

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[17] *Id.* at 6.
[18] *Id.*
[19] *Id.* at 7.
[20] *Id.*
[21] *Id.* at 8.
[22] *Id.*
[23] Exhibit No. 3, at 3.

I.B (details the engineering justifications for the Project);

I.C (describes the present system and details how the proposed Project will effectively satisfy present and projected future load demand requirements);

I.D (describes critical contingencies and associated violation due to the inadequacy of the existing system);

I.E (explains feasible project alternatives, when applicable);

I.G (provides a system map of the affected area);

I.H (provides the desired in-service date of the proposed Project and estimated construction time);

I.J (provides information about the project if approved by the regional transmission organization ("RTO"));

I.K (although not applicable to the proposed Project, this section, when applicable, provides outage history and maintenance history for existing transmission lines if the proposed Project is a rebuild and is due in part to reliability issues);

I.M (although not applicable to the proposed Project, this section, when applicable, contains information for transmission lines interconnecting a non-utility generator);

I.N (provides the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations, and other ground facilities associated with the proposed Project);

II.A.3 (provides color maps of existing or proposed ROW in the vicinity of the proposed Project); and

II.A.10 (provides details of the construction plans for the proposed Project, including requested and approved line outage schedules).[24]

Mr. Potter also co-sponsored the Executive Summary and Section I.A (details the primary justifications for the proposed Project) with Company witnesses Matthew B. Vinson, Santosh Bhattarai, Laura P. Meadows, and Jacob M. Rosenberg; and Section I.L (provides details on the deterioration of structures and associated equipment, when applicable) with Mr. Vinson.[25]

[24] *Id.*
[25] *Id.*

Matthew B. Vinson described the design characteristics of the transmission facilities for the proposed Project and discussed electric and magnetic field ("EMF") levels.[26] Mr. Vinson sponsored the following sections of the Appendix:

I.F (describes any lines or facilities that will be removed, replaced, or taken out of service upon completion of the proposed Project);

II.A.5 (provides drawings of the ROW cross-section showing existing typical transmission line structure placements);

II.B.1 to II.B.2 (provides the line design and operational features of the Project, as applicable); and

IV (provides analysis on the health aspects of EMF levels).[27]

Mr. Vinson co-sponsored the Executive Summary and Section I.A (details the primary justifications for the proposed Project) with Company witnesses Harrison S. Potter, Santosh Bhattarai, Laura P. Meadows, and Jacob M. Rosenberg.[28] Mr. Vinson also co-sponsored Sections I.I (provides the estimated total cost of the propose Project) with Mr. Bhattarai; Section I.L (provides details on the deterioration of structures and associated equipment, when applicable) with Mr. Potter; Sections II.B.3 to II.B.5 (provide supporting structural details along the propose and alternative routes, when applicable) with Ms. Meadows; and Section II.B.6 (provides photographs of existing facilities, representations of proposed facilities, and visual simulations) and Section V.A. (provides the proposed route description and structure heights for notice purposes) with Ms. Meadows and Mr. Rosenberg.[29]

Santosh Bhattarai described the work to be performed at the proposed Project's substations.[30] Mr. Bhattarai sponsored Section II.C (describes and furnishes a one-line diagram of the substations associated with the proposed Project) of the Appendix.[31] Mr. Bhattarai co-sponsored the Executive Summary and Section I.A (details the primary justifications for the proposed Project) of the Appendix with Company witnesses Harrison S. Potter, Matthew B. Vinson, Laura P. Meadows, and Jacob M. Rosenberg.[32] Mr. Bhattarai co-sponsored Section I.I (provides the estimated total cost of the proposed Project) with Mr. Vinson.[33]

Laura P. Meadows provided an overview of the route and permitting for the proposed Project.[34] Ms. Meadows sponsored the following sections of the Appendix:

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[26] Exhibit No. 4, at 3 (the page is actually designated as "2").
[27] *Id.*
[28] *Id.*
[29] *Id.*
[30] Exhibit No. 5, at 3.
[31] *Id.*
[32] *Id.*
[33] *Id.*
[34] Exhibit No. 6, at 3.

II.A.12 (identifies the counties and localities through which the proposed Project will pass and provides General Highway Maps for these localities); and

V.B-D (provide information related to public notice of the proposed Project).[35]

Ms. Meadows co-sponsored the Executive Summary and Section I.A (details the primary justifications for the proposed Project) of the Appendix with Company witnesses Harrison S. Potter, Matthew B. Vinson, Santosh Bhattarai, and Jacob M. Rosenberg.[36] She also co-sponsored the following sections of the Appendix: Section II.A.1 (provides the length of the proposed corridor and viable alternatives to the proposed Project), II.A.2 (provides a map showing the route of the proposed Project in relation to notable points close to the proposed Project), II.A.4 (explains why the existing ROW is not adequate to serve the need), II.A.6 to II.A.9 (provide detail regarding the ROW for the proposed Project), II.A.11 (details how the construction of the proposed Project follows the provisions discussed in Attachment 1 of the Transmission Appendix Guidelines), and III (details the impact of the proposed project on scenic, environmental, and historic features) with Mr. Rosenberg; Sections II.B.3 to II.B.5 (provide supporting structure details along the proposed and alternative routes, when applicable) with Mr. Vinson; and Section II.B.6 (provides photographs of existing facilities, representations of proposed facilities, and visual simulations) and V.A (provides the proposed route description and structure heights for notice purposes) with Mr. Vinson and Mr. Rosenberg.[37] Finally, Ms. Meadows co-sponsored the DEQ Supplement with Mr. Rosenberg.[38]

Ms. Meadows affirmed Dominion Energy complied with the requirement of § 15.2-2202 E of the Code by sending a letter dated September 23, 2022, to: Mr. Tim Hemstreet, Administrator of Loudoun County, Virginia, advising of "the Company's intention to file this Application and invited the County to consult with the Company about the proposed Project."[39]

Jacob M. Rosenberg sponsored the Environmental Routing Study, which is included in the Application filed by the Company in this proceeding.[40] In addition, Mr. Rosenberg co-sponsored the Executive Summary and Section I.A (details the primary justifications for the proposed Project) of the Appendix with Company witnesses Harrison S. Potter, Matthew B. Vinson, Santosh Bhattarai, and Laura P. Meadows.[41]

He also co-sponsored the following sections of the Appendix: Section II.A.1 (provides the length of the proposed corridor and viable alternatives to the proposed Project), II.A.2 (provides a map showing the route of the proposed Project in relation to notable points close to the proposed Project), II.A.4 (explains why the existing ROW is not adequate to serve the need), II.A.6 to II.A.9 (provide detail regarding the ROW for the proposed Project), II.A.11 (details how the construction of the proposed Project follows the provisions discussed in Attachment 1 of

[35] *Id.*
[36] *Id.*
[37] *Id.*
[38] *Id.*
[39] *Id.* at 4.
[40] Exhibit No. 7, at 5.
[41] *Id.* at 5-6.

the Transmission Appendix Guidelines), and III (details the impact of the proposed project on scenic, environmental, and historic features) with Ms. Meadows; Section II.B.6 (provides photographs of existing facilities, representations of proposed facilities, and visual simulations) and V.A (provides the proposed route description and structure heights for notice purposes) with Mr. Vinson and Ms. Meadows; and the DEQ Supplement with Ms. Meadows.[42]

DEQ Report

On January 23, 2023, DEQ filed the DEQ Report.[43] The DEQ Report incorporated the comments of DEQ, Department of Conservation and Recreation ("DCR"), Department of Wildlife Resources ("DWR"), Virginia Marine Resources Commission ("VMRC"), Department of Health ("VDH"), Department of Historic Resources ("DHR"), Virginia Outdoors Foundation ("VOF"), VDOT, and Department of Aviation ("DOAV").[44] DEQ indicated the Department of Forestry, Loudoun County, and the Northern Virginia Regional Commission were also invited to comment.[45] DEQ advised that the proposed Project would likely require the following permits and approvals:[46]

1. Water Permits:

    a. Section 404 permit (e.g. Nationwide Permit 57, if appropriate). Required pursuant to the federal Clean Water Act and issued by the U.S. Army Corps of Engineers ("Corps") for impacts to jurisdictional wetlands and/or waters of the United States.

    b. Virginia Water Protection Permit (9 VAC 25-210 *et seq.*). Issued by the DEQ for impacts to waters and jurisdictional wetlands, including isolated wetlands.

2. Subaqueous Lands Management:

    Subaqueous Lands Permit pursuant to § 28.2-1204 of the Code. Issued by the VMRC for encroachments in, on or over state-owned subaqueous beds.

3. Erosion and Sediment Control and Stormwater Management Plans:

    a. General erosion and sediment control specifications pursuant to § 62.1-44.15:55 of the Code. General erosion and sediment control specifications are subject to annual approval by the DEQ.

    b. Erosion and Sediment Control Plans for construction of facilities not covered under § 62.1-44.15:55 of the Code are subject to approval by the appropriate plan approving authority.

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[42] *Id.*at 6.
[43] Exhibit No. 10.
[44] *Id.* at 1.
[45] *Id.*
[46] *Id.* at 4-6.

4. Stormwater Management Permit:

   Virginia Stormwater Management Program ("VSMP") General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-70 *et seq.*) of the VSMP Permit Regulations (9 VAC 25-870 *et seq.*) involving land disturbance of one acre or more. Coverage under this general permit is approved by the locality.

5. Floodplain Management:

   All development within a Special Flood Hazard Area ("SFHA") or floodplain, as shown on a locality's Flood Insurance Rate Map, must be permitted and comply with the requirements of the local floodplain ordinance pursuant to 44 CFR 59.2(b).

6. Air Quality Permits or Approvals:

   a. Open Burning Permit (9 VAC 5-130 *et seq.*). For open burning involving vegetative and demolition debris.

   b. Fugitive dust emissions (9 VAC 5-50-60 *et seq.*). Governs abatement of visible emissions.

   c. Asphalt paving (9 VAC 5-40-5490), for driveways and site pads, if applicable.

7. Solid and Hazardous Waste Management:

   a. Applicable state laws and regulations include:
      - Virginia Waste Management Act (§ 10.1-1400 *et seq.* of the Code);
      - Virginia Hazardous Waste Management Regulations (9 VAC 20-60);
      - Virginia Solid Waste Management Regulations (9 VAC 20-81); and
      - Virginia Regulations for the Transportation of Hazardous Materials (9 VAC 20-110).

   b. Applicable federal laws and regulations include:
      - Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and
      - U.S. Department of Transportation Rules for Transportation of Hazardous Materials (49 CFR Part 107).

8. Wildlife Resources and Protected Species:

   Project activities are subject to the Endangered Species Act as administered by the U.S. Fish and Wildlife Service which provides for the protection of the federal-

listed endangered Northern Long-Eared Bat ("NLEB") (16 U.S.C. § 1531 *et. seq.* (1973)).

9. Historic and Archaeological Resources:

   Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulation 36 CFR 800 requires that federally licensed and permitted projects consider its effects on properties that are listed or eligible for listing on the National Register of Historic Places. Section 106 applies if there is federal involvement such as the issuance of a § 404 Clean Water Act permit, including nationwide permits. The applicability of § 106 to the entire Project or any portion thereof must be determined by the responsible federal agency.

10. Transportation:

    Permits for construction in the state-maintained ROW.

11. Aviation:

    Submission of a Federal Aviation Administration Form 7460, *Notice of Proposed Construction or Alteration*, to ensure compliance with Federal Aviation Regulations Part 77.

Summarized below are DEQ's other recommendations.

- Conduct an on-site delineation of wetlands and streams within the project area with verification by the U.S. Army Corps of Engineers, using accepted methods and procedures, and follow DEQ's recommendations to avoid and minimize impacts to wetlands and streams.[47]

- Take all reasonable precautions to limit emissions of oxides of nitrogen and volatile organic compounds, principally by controlling or limiting the burning of fossil fuels.[48]

- Reduce solid waste at the source, reuse it and recycle it to the maximum extent practicable, and follow DEQ's recommendations to manage waste, as applicable.[49]

- Coordinate with DCR for updates to the Biotics Data System database (if the scope of the project changes or six months passes before the project is implemented).[50]

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[47] *Id.* at 7, 9-10.
[48] *Id.* at 7, 14.
[49] *Id.* at 7, 17.
[50] *Id.* at 7, 18.

- Coordinate with the DWR regarding its recommendations on the protection of the wood turtle, species of greatest conservation needs, and the general protection of wildlife resources.[51]

- Coordinate with VOF should the Project change or if construction does not begin within 24 months.[52]

- Employ best management practices for the protection of water supply sources.[53]

- Limit the use of pesticides and herbicides to the extent practicable.[54]

Brambleton

On January 27, 2023, Brambleton filed the direct testimony of Stephen T. Schulte, Vice President of Brambleton. A summary of Mr. Schulte's direct testimony is provided below.

Stephen T. Schulte testified that Brambleton is the principal developer of the planned community by the same name, in the Ashburn area of Loudoun County, which includes residential, commercial, institutional, recreational, and other property.[55] Mr. Schulte advised that Brambleton and its associated entities own parcels of land on or near some or all of the routes proposed by the Company for the proposed Project.[56] Specifically, he identified the following parcels:[57]

- Parcel 202298575000 ("Parcel I") – approximately 27.38 acres of undeveloped land at the corner of Belmont Ridge Road and Arcola Mills Drive;

- Parcel 161397058000 ("Parcel II") – approximately 48.3 acres of land with an existing farmhouse at the corner of Loudoun County Parkway and Arcola Boulevard to be part of the Brambleton Business Campus;

- Parcel 161304929000 ("Parcel III") – 72-66 acre parcel at the corner of Loudoun County Parkway and Evergreen Mills Road to be part of the Brambleton Business Campus; and

- Parcel 161269137000 ("Parcel IV") – approximately 94.4 acres currently used for walking trails and other amenities for the nearby Brambleton residential developments.

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[51] *Id.* at 7, 19-21.
[52] *Id.* at 7, 23.
[53] *Id.* at 7, 24.
[54] *Id.* at 7, 25.
[55] Exhibit No. 8, at 2.
[56] *Id.*
[57] *Id.* at 3.

Mr. Schulte supported the Company's proposed Route 5 and maintained this route "is the product of significant research, discussion, engineering, evaluation and analysis" and takes advantage of pre-existing transmission line ROWs to minimize its impact.[58] He affirmed that while Route 5 will impact some of Brambleton's properties, the other alternative routes will be much more detrimental to Brambleton "by carving out swaths in which no above-ground improvements can be constructed and forcing the reconfiguration of potential residential homesites and/or other improvements."[59] More specifically, Mr. Schulte asserted Parcel I is impacted by all routes equally as they all cross this parcel following the same path.[60] He stated: (i) Route 1 will have a significant impact to Parcel III and Parcel IV; (ii) Route 2 will negatively impact Parcel IV; (iii) Route 3 will significantly impact Parcel III; and (iv) Routes 4 and 6 will impact Parcel IV.[61]

Mr. Schulte testified:

> Route 5, the Company's Proposed Route, strikes a balance which will reduce the overall impact on Brambleton's proposed and current property development while ensuring that the region[']s need for electrical power continue[s] to be met.[62]

Staff's Direct Testimony

On January 30, 2023, Staff filed the direct testimony of Neil Joshipura, Principal Utilities Engineering Manager in the Commission's Division of Public Utility Regulation. A summary of Mr. Joshipura's prefiled direct testimony is provided below.

Neil Joshipura sponsored the Staff Report on the Company's Application.[63] In the Staff Report, Mr. Joshipura examined the various aspects of the need for the proposed Project including: (i) the area's load growth; (ii) NERC violations projected in PJM's 2022 Regional Transmission Expansion Plan ("RTEP") 2025 Study and the 2022 RTEP 2027 Study; and (iii) other operating issues.[64] He found "it is reasonable to expect substantial load growth in the Eastern Loudoun Load Area."[65] Mr. Joshipura agreed with the Company that an additional source is required in the Eastern Loudoun Load Area, and that the proposed Project would provide the additional necessary capacity.[66] Thus, Mr. Joshipura advised "Staff believes the Company has reasonably demonstrated the need to construct the proposed Project."[67]

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[58] *Id.* at 4.
[59] *Id.*
[60] *Id.*
[61] *Id.* at 4-5.
[62] *Id.* at 5.
[63] Exhibit No. 9, at 1.
[64] *Id.* at 5-12.
[65] *Id.* at 12.
[66] *Id.* at 13.
[67] *Id.*

Mr. Joshipura examined four transmission alternatives to the proposed Project and agreed with Dominion Energy's rejection of each alternative.[68] He also reported the Company incorporated an evaluation of Demand Side Management ("DSM") and still found the Project necessary and that incremental DSM would not eliminate the need for the proposed Project.[69]

Mr. Joshipura summarized the Project details, including each of the Alternative Routes for the proposed Mars-Wishing Star Lines.[70] He provided the following table of estimated conceptual cost for the Project using the various routes for the Mars-Wishing Star Lines and the Mars 230 kV Loop Proposed Route:[71]

	Mars-Wishing Star Lines routes and Mars 230 kV Loop Proposed Route					
Facilities (million, Approximate)	Proposed Route 5	Alternative Route 1	Alternative Route 2	Alternative Route 3	Alternative Route 4	Alternative Route 6
Transmission-work	$157.2	$158.3	$158.5	$156.0	$156.4	$159.8
Substation-work	$558.5	$558.5	$558.5	$558.5	$558.5	$558.5
Total Cost	**$715.7**	**$716.8**	**$717.0**	**$714.5**	**$714.9**	**$718.3**

In his analysis of environmental, scenic, and historic impacts, Mr. Joshipura focused on: (i) land use; (ii) dwellings; (iii) existing and planned developments; (iv) historic features; and (v) wetlands.[72] For land use for the Mars-Wishing Star Lines routes, he presented the following summary table:[73]

	Mars-Wishing Star Lines Routes					
Land Use	Proposed Route 5	Alternative Route 1	Alternative Route 2	Alternative Route 3	Alternative Route 4	Alternative Route 6
Construction Footprint-acres	92.70	91.87	92.08	91.68	91.90	92.89
Forested Lands-acres	42.84	33.98	34.96	40.69	41.66	42.96
Open Space-acres	28.91	37.73	36.21	30.94	29.42	28.36
Developed Land-acres	18.81	18.88	18.81	18.88	18.81	18.81
Open Water-acres	2.21	1.28	2.11	1.17	2.01	2.74
Stream Valley Park-acres	4.84	5.14	4.93	5.14	4.93	4.84
Trail Crossings-number	0	9	9	5	4	0
Restrictive Preservation Areas-acres	5.06	2.68	4.11	3.27	4.71	10.93
Wetland Mitigation Areas-acres	0	4.32	4.32	2.20	2.20	0.00

Mr. Joshipura stated for all of the Mars-Wishing Star Lines Routes "there are six dwellings located within 500 feet of the centerline, one dwelling located within 250 feet of the centerline, and no dwellings located within 100 feet of the centerline."[74] For existing and planned developments, he provided the following table for the 15 existing or planned developments within 0.25 mile of the Mars-Wishing Star Lines Routes:[75]

[68] *Id.* at 13-16.
[69] *Id.* at 16-17.
[70] *Id.* at 17-30.
[71] *Id.* at 30.
[72] *Id.* at 31.
[73] *Id.* at 32.
[74] *Id.*
[75] *Id.* at Attachment 11.

Development Name	Status	Routes Crossed
606 Data Park	Existing; additional development potential	Not crossed.
Brambleton	Existing and under construction	The Mars-Wishing Star routes do not cross the Brambleton developments north of Evergreen Road. Other Brambleton developments are identified below.
Brambleton Active Adult and Birchwood at Brambleton	Existing, under construction, and planned	An open space proffer is crossed by all the Mars-Wishing Star routes.
Brambleton Brandt Commercial Center	Existing, under construction, and planned	Not crossed.
Brambleton Business Campus	Planned, inactive	Crossed by all Mars-Wishing Star routes.
Brambleton Community Center (Brambleton Landbay 3A)	Planned	Not crossed.
Brambleton Shreveport South	Planned	Crossed by all routes.
Brambleton South Industrial (Black Chamber Data Center)	Planned	Crossed by all routes.
Digital Dulles	Planned	Crossed by all Mars-Wishing Star routes and Mars 230 kV Loop route.
Dulles Trade Center West	21 lots developed; planned development 6 lots	Not crossed.
Evergreen Meadows	Planned	Not crossed.
Farah Naples	Planned	Crossed by all Mars-Wishing Star routes.
JK Technology Park #1	Planned	Not crossed.
Perimeter Substation Site	Existing with planned expansion	Crossed by all Mars-Wishing Star routes.
Prologis Park West	Existing	Not crossed.

Mr. Joshipura reported Dominion Energy "consulted with Loudoun County Planning and Zoning Staff, Loudoun County Natural Resources Staff, Loudoun County Department of Transportation and Capital Infrastructure Staff, Brambleton Group, Black Chamber Group, NOVEC, the Loudoun County Board of Supervisors Office, and Farah-Naples LP ("Farah-Naples")."[76] He advised the Brambleton Group, Black Chamber Group, and Farah-Naples supported the Mars-Wishing Star Lines Proposed Route.[77]

Mr. Joshipura affirmed there are three historic resources within 1.0 mile of all the routes for the Mars-Wishing Star Lines and that the Company states that "the area between the resource[s] and the routes is densely wooded, so the routes would not be visible from most of the resource[s]."[78] For archaeological sites within or adjacent to the ROWs for the Mars-Wishing Star Lines, he provided the following chart:[79]

[76] *Id.* at 33 (footnote omitted).
[77] *Id.*
[78] *Id.* at 33-34.
[79] *Id.* at 35.

	Mars-Wishing Star Lines Routes					
Archaeological Sites	Proposed Route 5	Alternative Route 1	Alternative Route 2	Alternative Route 3	Alternative Route 4	Alternative Route 6
Determined not eligible for the NRHP[80]	3	1	2	1	2	3
Not formally evaluated for the NRHP	2	1	2	0	1	2
Total	**5**	**2**	**4**	**1**	**3**	**5**

For wetland acreage by route, Mr. Joshipura provided the following table:[81]

	Mars-Wishing Star Lines Routes					
Wetlands Impacts	Proposed Route 5	Alternative Route 1	Alternative Route 2	Alternative Route 3	Alternative Route 4	Alternative Route 6
Wetlands Affected – Total-acres	17.61	22.03	21.92	19.09	18.98	19.56
Palustrine Forested-acres	6.50	11.05	9.78	9.66	8.40	7.71

Based on the information provided in the Application, Mr. Joshipura stated "Staff agrees with the Company's assessment and recommends the Mars-Wishing Star Lines Proposed Route be the preferred route for the Mars-Wishing Star Lines."[82] Nonetheless, he advised that Alternative Route 6 is a viable route alternative, and that Alternative Routes 1, 2, 3, and 4 are not viable alternative routes.[83] Mr. Joshipura agreed with the Company and recommended the Mars 230 kV Loop Proposed Route.[84]

Regarding the construction schedule, Mr. Joshipura testified that the Company estimates it will take approximately 32 months to complete the Project and that the Company expects to complete the Project by the spring of 2025.[85]

Based on the information provided in the Application, Mr. Joshipura agreed with the Company that there are no disproportionately high or adverse impacts to Environmental Protection Agency's Environmental Justice ("EJ") communities located within the study area.[86]

Mr. Joshipura concluded "that the work associated with the removal of two double-circuit structures, Structures #546/26 / 2094/220 and #590/1893 / 2045/25, and the installation of two new two-pole double-circuit structures on Lines #2095 and #2137 should be considered part of the Project and included in the [certificate of public convenience and necessity ("CPCN")] issued

[80] National Register of Historic Places ("NRHP").
[81] Exhibit No. 9, at 35.
[82] *Id.* at 39-40.
[83] *Id.* at 40.
[84] *Id.* at 40-41.
[85] *Id.* at 41.
[86] *Id.* at 41-42.

for the Project."[87] He testified "Staff does not oppose the Company's request that the Commission issue the CPCN necessary for the proposed Project."[88]

Dominion Energy's Rebuttal Testimony

On February 13, 2023, Dominion Energy filed the rebuttal testimony of Gregory M. Vozza, Electrical Engineer with MPR Associates, Inc.; Matthew B. Vinson; James P. Young, Environmental Services Electric Transmission Environmental Specialist III for the Company; Jacob M. Rosenberg. A summary of each testimony is provided below.

Gregory M. Vozza stated that he serves as a Project Manager for the Company's transmission team.[89] Mr. Vozza introduced Dominion Energy's other rebuttal witnesses in this proceeding, offered general comments in support of the conclusions and recommendations of Staff witness Joshipura, and clarified the timing of the outage windows required by the Project.[90]

Mr. Vozza highlighted Staff's agreement that the Company has reasonably demonstrated the need for the proposed Project.[91] He also agreed with Staff's assessment that the Mars-Wishing Star Lines Proposed Route is the optimum route, and that Alternative Route 6 is the next best viable route alternative.[92]

Mr. Vozza advised that the Company has learned that the outage windows may be completed later than first anticipated.[93] He testified:

> The Company originally expected that outages would be difficult to obtain and that the estimated spring 2025 outages may need to be rescheduled for fall 2025, which is reflected in the Company's statement that a reasonable in-service date for the Project is December 31, 2025. As such, the Company anticipates that rescheduled or additional outages will have no impact on the completion of all construction associated with the Project by December 2025, with a desired in-service date of December 31, 2025, as stated in the Company's Application and Appendix Section I.H.[94]

Mr. Vozza stressed that to support the desired in-service date of December 31, 2025, for the Project, "the Company respectfully requests that the Commission issue a final order approving the Project as proposed by April 25, 2023."[95]

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[87] *Id.* at 44.
[88] *Id.*
[89] Exhibit No. 11, at 1.
[90] *Id.* at 3.
[91] *Id.* at 4.
[92] *Id.* at 4-5.
[93] *Id.* at 5.
[94] *Id.* at 5-6.
[95] *Id.* at 6.

Matthew B. Vinson responded to the public comments of David Specht.[96] Mr. Vinson affirmed that Dominion Energy's transmission system includes approximately 6,743 miles of lines operating at voltages of 69 kV and above, of which 98.78 percent is overhead construction.[97] Mr. Vinson disagreed with Mr. Specht's assertion that overhead power lines are unreliable and prone to power failure.[98] Mr. Vinson testified "overhead transmission lines are more reliable from an outage duration perspective . . . ."[99] He pointed to the Company's overhead transmission lines serving the Outer Banks of North Carolina that have survived multiple events without damage leading to extended outages.[100] Mr. Vinson also contrasted the time needed to repair overhead transmission line faults, which can be repaired quickly, generally under 8 hours; to the difficulty in repairing underground transmission line faults.[101]

Mr. Vinson noted Mr. Specht's concern that the preferred route is in the flight path of the Dulles Airport.[102] In response, Mr. Vinson affirmed that the proposed Project and Alternative Routes are "consistent with federal, state, and local aviation hazard avoidance requirements . . . ."[103]

Mr. Vinson affirmed "that underground transmission lines cost an average of seven to ten times more for the same circuit mileage as overhead transmission lines."[104]

Finally, Mr. Vinson asserted "that the exploration, permitting, and construction timeline for underground cables on the Proposed Route or the Alternative Routes would not meet the required completion need date for this immediate need Project."[105]

James P. Young addressed specific recommendations in the DEQ Report.[106]

Mr. Young agreed with the recommendations contained in the "Summary of Findings and Recommendations" on page 7 of the DEQ Report, except for the following:[107]

- The recommendation by DWR to conduct significant tree removal and ground-clearing activities outside of the primary songbird nesting season of March 15 through August 15; and

[96] Exhibit No. 12, at 3.
[97] *Id.*
[98] *Id.* at 4.
[99] *Id.*
[100] *Id.*
[101] *Id.* at 5.
[102] *Id.*
[103] *Id.*
[104] *Id.*
[105] *Id.* at 6.
[106] Exhibit No. 13, at 3.
[107] *Id.* at 4.

- The recommendation in the DEQ Report that the Company should direct specific questions regarding the Stormwater Management Program requirements to Loudoun County Building and Development.

In addition, Mr. Young discussed two recommendations the Company seeks to clarify:

- As to the requirement that the Company coordinate with [U.S. Fish and Wildlife Service] regarding the impact to the NLEB population resulting from the Project, Mr. Young clarifies that there are planned changes to the law governing the NLEB population; and

- As to the recommendation by [Virginia Department of Health, Office of Drinking Water ("VDH-ODW")] to field verify the locations of wells within a 1,000-foot radius from the Project site, Mr. Young clarifies that the Company intends to follow the same alternative method that the Company has proposed in other cases, which the Commission has approved, and will coordinate with VDH-ODW, as needed.[108]

Mr. Young strongly opposed the time of year restriction recommended by DWR because it would likely impact the Company's ability to complete the Project on time.[109] He confirmed that construction of the Project is planned to start in June 2023 in order to meet the desired in-service date of December 31, 2025.[110] Mr. Young stated that tree removal and ground clearing is the first step in the construction process.[111] He committed to working with DWR to minimize impacts to songbirds.[112]

Mr. Young objected to the recommendation in the DEQ Report directing specific questions regarding the Stormwater Management Program to Loudoun County Building and Development.[113] He pointed out that the Company is an Annual Standards and Specifications ("AS&S") holder for Erosion and Sediment Control ("E&SC") and Stormwater Management ("SWM").[114] Mr. Young maintained that DEQ is the Virginia Stormwater Management Program authority for the Company transmission projects, and that all matters pertaining to E&SC and SWM should be handled by DEQ and not locally by the county.[115]

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[108] *Id.*
[109] *Id.* at 4-5.
[110] *Id.* at 5.
[111] *Id.*
[112] *Id.* at 5-6.
[113] *Id.* at 6.
[114] *Id.*
[115] *Id.*

Mr. Young anticipated that on April 1, 2023, the U.S. Fish and Wildlife Service will "up-list" the NLEB from threatened to endangered, and the ESA 4(d) Rule will no longer be applicable.[116] He advised that the Project is not located within a 0.25-mile radius or within a 5.5-mile hibernaculum buffer of a known NLEB habitat, which makes it less likely that the Project will have significant impacts on the NLEB.[117] Mr. Young testified: "[t]he Company will coordinate with the required agencies through the permitting process and based on that coordination adhere to the requirements to allow the Project to move forward while minimizing impacts to the NLEB."[118]

Regarding the VDH-ODW recommendation to mark wells within a 1,000-foot radius of the Project, Mr. Young asserted that because such wells are outside of the ROW, "the Company does not have the ability or right to field mark the wells on private property . . . ."[119] He offered the alternative method of well protection, including plotting and calling out the wells on the Project's E&SC Plan, that has been agreed to by VDH-ODW and approved in other cases by the Commission.[120]

Jacob M. Rosenberg responded to routing related testimony in the Staff Report and Brambleton witness Schulte, and to the public comments.[121]

Mr. Rosenberg agreed with Staff that the Proposed Route is the optimal route and that Alternative Route 6 represents the next best viable route.[122] Nonetheless, he asserted the Proposed Route is superior to Alternative Route 6 as it is less impactful.[123]

In response to the public comments filed by David Specht, Mr. Rosenberg confirmed ERM conducted detailed modeling of the heights of the proposed structures and found that "none of the [proposed] transmission structures would penetrate the FAA-defined imaginary surfaces for the runways at Dulles Airport."[124] He also pointed out that Dominion Energy will need to submit plans to the FAA, and the FAA will make a final determination of the Project's impact to air navigation.[125]

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[116] *Id.* at 7.
[117] *Id.*
[118] *Id.*
[119] *Id.* at 7-8.
[120] *Id.* at 8; *See, e.g., Application of Virginia Electric and Power Company For approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind, pursuant to § 56-58.1:11, §56-46.1, § 56-265.1 et seq., and § 56-585.1 A 6 of the Code of Virginia*, PUR-2021-00142, Doc. Con. Cen. No. 220820117, Final Order at 36-37 (Aug. 5, 2022) and *Application of Virginia Electric and Power Company For approval and certification of electric transmission facilities: 230 kV Lines #2113 and #2154 Transmission Line Rebuilds and Related Projects*, Case No. PUR-2021-00010, 2021 S.C.C. Ann. Rep. 384, 388.
[121] Exhibit No. 14, at 3.
[122] *Id.*
[123] *Id.*
[124] *Id.* at 6.
[125] *Id.*

Regarding Mr. Specht's comments concerning the visual impact of the proposed transmission lines, Mr. Rosenberg contended the Proposed Route is the least visible alternative.[126] He acknowledged the new transmission structures would be visible above the tree line from some areas within the Birchwood at Brambleton community.[127] Mr. Rosenberg maintained "these transmission structures would be difficult to discern as they intermingle with the tops of existing vegetation and the existing transmission structures."[128]

Mr. Rosenberg addressed Mr. Specht's concern that the Project would devalue property in Birchwood by stating his concern is unfounded.[129] Mr. Rosenberg took the position that "because no residential dwellings within the existing Birchwood at Brambleton community are located in close proximity to the route alternatives, the Project is unlikely to result in property devaluation."[130]

As to Mr. Specht's concern regarding EMF and adverse health effects, Mr. Rosenberg advised that "scientific evidence does not indicate that any adverse health effects are caused by sources of [EMF] in the environment . . . ."[131] Mr. Rosenberg also addressed Mr. Specht's concern regarding the impact on trails by pointing out that the Proposed Route does not require an overhead crossing of the existing trails.[132]

Regarding the comments filed by Loudoun Water, Mr. Rosenberg stated as follows:

> The Company is consulting directly with Loudoun Water regarding the Project and will provide the requested information and documentation during the Company's ongoing discussions with Loudoun Water. The Company is aware of several sanitary sewer easements crossed by the Project and understands the sensitivity of the buried infrastructure in terms of transmission structure siting and construction activities. The Company will coordinate with Loudoun Water staff and the Utility Protection Supervisor on plan review and construction activities.[133]

DISCUSSION

Pursuant to the Utility Facilities Act,[134] it is unlawful for any public utility to construct facilities, except ordinary extensions or improvements in the usual course of business, without first obtaining a certificate of public convenience and necessity from the Commission.[135] For

[126] *Id.* at 7.
[127] *Id.*
[128] *Id.*
[129] *Id.* at 8.
[130] *Id.* at 8-9.
[131] *Id.* at 9.
[132] *Id.* at 10.
[133] *Id.* at 12.
[134] Chapter 10.1 of Title 56, §§ 56-265.1 to 56-265.9 of the Code.
[135] Section 56-265.2 A of the Code.

overhead transmission lines of 138 kV or more, § 56-265.2 A 1 of the Code requires compliance with the provisions of § 56-46.1 of the Code.

Section 56-46.1 of the Code directs the Commission to consider several factors regarding proposed new facilities. For example, § 56-46.1 A of the Code directs the Commission to consider the effect of the facility on the environment and establish "such conditions as may be desirable or necessary to minimize adverse environmental impact." Section 56-46.1 A of the Code directs the Commission to consider all reports that relate to the proposed facility by state agencies concerned with environmental protection and, if requested, to local comprehensive plans. In addition, § 56-46.1 A of the Code states that "the Commission (a) shall consider the effect of the proposed facility on economic development within the Commonwealth . . . and (b) shall consider any improvements in service reliability that may result from the construction of such facility."

Section 56-46.1 B of the Code states as follows:

> [N]o electrical transmission line of 138 [kV] or more shall be constructed unless . . . [a]s a condition to approval the Commission shall determine that the line is needed and that the corridor or route chosen for the line will avoid or reasonably minimize adverse impact to the greatest extent reasonably practicable on the scenic assets, historic resources recorded with [DHR], and environment of the area concerned. To assist the Commission in this determination, as part of the application for Commission approval of the line, the applicant shall summarize its efforts to avoid or reasonably minimize adverse impact to the greatest extent reasonably practicable on the scenic assets, historic resources recorded with [DHR], and environment of the area concerned. In making the determinations about need, corridor or route, and method of installation, the Commission shall verify the applicant's load flow modeling, contingency analyses, and reliability needs presented to justify the new line and its proposed method of installation. . . . Additionally, the Commission shall consider, upon the request of the governing body of any county or municipality in which the line is proposed to be constructed, (a) the costs and economic benefits likely to result from requiring the underground placement of the line and (b) any potential impediments to timely construction of the line.

Section 56-46.1 C of the Code provides for hearings and includes a requirement that "[i]n any hearing the public service company shall provide adequate evidence that existing [ROWs] cannot adequately serve the needs of the company." This requirement is further supported by § 56-259 C of the Code which states that "[p]rior to acquiring any easement of [ROW], public service corporations will consider the feasibility of locating such facilities on, over, or under existing easements of [ROWs]."

Section 56-46.1 D of the Code provides that "'[e]nvironment' or 'environmental' shall be deemed to include in meaning 'historic,' as well as a consideration of the probable effects of the line on the health and safety of the persons in the area concerned."

Section 56-46.1 E of the Code permits the Commission to cause the publishing of additional notice to consider a route or routes significantly different from the route described in the notice required by § 56-46.1 B.

The Virginia Environmental Justice Act defines "environmental justice," "environmental justice community," "fair treatment," and "fenceline community" as follows:[136]

> "Environmental justice" means the fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability, regarding the development, implementation, or enforcement of any environmental law, regulation, or policy.
>
> "Environmental justice community" means any low-income community or community of color.
>
> "Fair treatment" means the equitable consideration of all people whereby no group of people bears a disproportionate share of any negative environmental consequence resulting from an industrial, governmental, or commercial operation, program, or policy.
>
> "Fenceline community" means an area that contains all or part of a low-income community or community of color and that presents an increased health risk to its residents due to its proximity to a major source of pollution.

Section 2.2-235 of the Code states: "[i]t is the policy of the Commonwealth to promote environmental justice and ensure that it is carried out throughout the Commonwealth, with a focus on environmental justice communities and fenceline communities."

In reviewing the Commission's application of the Utilities Facilities Act and Code § 56-46.1, the Supreme Court of Virginia stated that the "Commission, pursuant to Code § 56-46.1(B), determines whether a need for the proposed infrastructure exists."[137] The Court provided that in determining need, "the Commission must assess the magnitude and timing of any such need."[138] The Court also noted the statutory requirement to verify "the applicant's load flow modeling, contingency analyses, and reliability needs presented to justify the new line and its proposed methods of installation[;]" and acknowledged that additional factors should be

[136] Section 2.2-234 of the Code.
[137] *BASF Corp. v. State Corp. Comm'n*, 289 Va. 375, 394 (2015) ("*BASF*").
[138] *Id.*

considered, along with the minimization of adverse impacts, such as cost of construction, economic and environmental factors, reliability of electric service, and engineering feasibility.[139]

Furthermore, the Court addressed the Commission's consideration of the adverse impacts of a project, which "are not to be considered in a vacuum."[140] The Court found that "the Commission must 'balance' adverse impacts along with other 'factors' and 'traditional considerations.'"[141] The Court concluded "that the use of the word 'reasonably' demonstrates the General Assembly's recognition of the multifactorial balancing that goes into such an investigation . . . ."[142]

In this case, Staff witness Joshipura verified the Company's power flow models, and confirmed the various thermal violations projected to occur in 2025 and 2027, absent the proposed Project, and how the Project resolves those violations.[143] Mr. Joshipura agreed that an additional source in the Eastern Loudoun Load Area is needed because Lines #227 and #274 are already at the Company's highest 230 kV rating.[144] He further agreed the additional capacity to be supplied by the proposed Project would help relieve outage constraints in the Eastern Loudoun Load Area.[145] In summary, Mr. Joshipura stated: "Staff believes the Company has reasonably demonstrated the need to construct the proposed Project."[146]

In addition, Staff supported the Company's Proposed Route for the Mars-Wishing Star Line, and the Company's Proposed Route for the Mars 230 kV Loop.[147] Staff also concluded "that the work associated with the removal of two double-circuit structures, Structures #546/26 / 2094/220 and #590/1893 / 2045/25, and the installation of two new two-pole double-circuit structures on Lines #2095 and #2137 should be considered part of the Project and included in the CPCN issued for the Project."[148] Finally, Mr. Joshipura affirmed: "Staff does not oppose the Company's request that the Commission issue the CPCN necessary for the proposed Project."[149]

None of the Respondents opposed the Company's proposed Project. Indeed, Brambleton witness Schulte confirmed support for the Company's Proposed Route for the Mars-Wishing Star Line.[150]

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[139] *Id.* (*citing Bd. of Sup'rs of Campbell Cnty. v. Appalachian Power Co.*, 216 Va. 93, 104 (1975)) ("*Board of Supervisors*").
[140] *BASF* at 394.
[141] *Id.* at 395, citing *Board of Supervisors* at 100.
[142] *BASF* at 395.
[143] Exhibit No. 9, at 13.
[144] *Id.*
[145] *Id.*
[146] *Id.*
[147] *Id.* at 43-44.
[148] *Id.* at 44.
[149] *Id.*
[150] Exhibit No. 8, at 4-5.

In its rebuttal testimony, Dominion Energy supported or did not oppose any of the conclusions reached by Staff and Brambleton.[151]

With four exceptions, the Company also accepted all recommendations contained in the DEQ Report.[152] Company witness Young disagreed with two recommendations in the DEQ Report and offered two clarifications to the DEQ Report.[153] The two recommendations with which the Company takes issue are:[154]

- The recommendation by DWR to conduct significant tree removal and ground-clearing activities outside of the primary songbird nesting season of March 15 through August 15; and

- The recommendation in the DEQ Report that the Company should direct specific questions regarding the Stormwater Management Program requirements to Loudoun County Building and Development.

The two clarifications offered by Company include:[155]

- As to the requirement that the Company coordinate with [U.S. Fish and Wildlife Service] regarding the impact to the NLEB population resulting from the Project, Mr. Young clarifies that there are planned changes to the law governing the NLEB population; and

- As to the recommendation by VDH-ODW to field verify the locations of wells within a 1,000-foot radius from the Project site, Mr. Young clarifies that the Company intends to follow the same alternative method that the Company has proposed in other cases, which the Commission has approved, and will coordinate with VDH-ODW, as needed.

Each of these recommendations is discussed separately below.

1. Tree and Ground Clearing Outside of Songbird Nesting Period of March 15 through August 15

Mr. Young strongly opposed the time of year restriction recommended by DWR because it would likely impact the Company's ability to complete the Project on time.[156] He confirmed

[151] Exhibit No. 11, at 4-5; Exhibit No. 14, at 3-4.
[152] Exhibit No. 13, at 4.
[153] *Id.*
[154] *Id.*
[155] *Id.*
[156] *Id.* at 4-5.

that construction of the Project is planned to start in June 2023 in order to meet the desired in-service date of December 31, 2025.[157] Mr. Young stated that tree removal and ground clearing is the first step in the construction process.[158] He committed to working with DWR to minimize impacts to songbirds.[159]

Based on the high need for this Project and the compressed time schedule for completing the Project, I recommend that the Commission not adopt a requirement that Dominion Energy conduct significant tree removal and ground-clearing activities outside of the primary songbird nesting season of March 15 through August 15. Instead, the Company should be directed to work with DWR to minimize impacts to songbirds.

2. Stormwater Management by Loudoun County

In the DEQ Report, DEQ directed the Company to a DEQ contact for questions regarding E&SC, and directed the Company to a Loudoun County representative for questions regarding SWM.[160] Dominion Energy objected to the recommendation in the DEQ Report directing the Company to raise SWM Program related questions with a Loudoun County representative.[161] Company witness Young affirmed the Company is an AS&S holder for E&SC and SWM.[162] Mr. Young maintained that DEQ is the Virginia Stormwater Management Program authority for the Company transmission projects, and that all matters pertaining to E&SC and SWM should be handled by DEQ and not locally by the county.[163]

Based on Dominion Energy's representations, I agree that the Company should direct all Virginia Stormwater Management Program questions to DEQ. Nonetheless, such a directive from the Commission should not prevent DEQ, and/or the Company, from working with Loudoun County representatives on SWM issues.

3. NLEB Management with U.S. Fish and Wildlife Service

The Company anticipated that on April 1, 2023, the U.S. Fish and Wildlife Service will "up-list" the NLEB from threatened to endangered, and the ESA 4(d) Rule will no longer be applicable.[164] Mr. Young advised that the Project is not located within a 0.25-mile radius or within a 5.5-mile hibernaculum buffer of a known NLEB habitat, which makes it less likely that the Project will have significant impacts on the NLEB.[165] Mr. Young testified: "[t]he Company will coordinate with the required agencies through the permitting process and based on that

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[157] *Id.* at 5.
[158] *Id.*
[159] *Id.*
[160] Exhibit No. 10, at 26.
[161] Exhibit No. 13, at 6.
[162] *Id.*
[163] *Id.*
[164] *Id.* at 7. As defined above "NLEB" refers to the Northern Long-Eared Bat.
[165] *Id.*

coordination adhere to the requirements to allow the Project to move forward while minimizing impacts to the NLEB."[166]

I find that the Company's clarification should be accepted, and the Commission should direct the Company to coordinate with the required agencies through the permitting process and based on that coordination adhere to the requirements to allow the Project to move forward while minimizing impacts on the NLEB.

4. Field Verification of Well Locations

Regarding the VDH-ODW recommendation to mark wells within a 1,000-foot radius of the Project, Mr. Young asserted that because such wells are outside of the ROW, "the Company does not have the ability or right to field mark the wells on private property . . . ."[167] He offered the alternative method of well protection, including plotting and calling out the wells on the Project's E&SC Plan, that has been agreed to by VDH-ODW and approved in other cases by the Commission.[168]

Based on Mr. Young's rebuttal testimony, I agree that the alternative method of well protection proposed by the Company should also be adopted in this proceeding.

FINDINGS AND RECOMMENDATIONS

In conclusion, based on the evidence and for the reasons set forth above, I find that:

1. The Company has demonstrated the need for its proposed Project and has demonstrated the Project avoids or reasonably minimizes the impact on existing residences, scenic assets, historic resources and the environment;

2. The Company's Application does not appear to adversely impact any goal established by the Virginia Environmental Justice Act; and

3. With the exception of recommendations concerning: (i) tree and ground clearing outside of songbird nesting period or March 15 through August 15; (ii) stormwater management and consultation with Loudoun County; (iii) clarification regarding NLEB management with the U.S. Fish and Wildlife Service; and (iv) clarification regarding field verification of well locations; the recommendations in the DEQ Report should be adopted by the Commission as conditions of approval.

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[166] *Id.*

[167] *Id.* at 7-8.

[168] *Id.* at 8; *See, e.g., Application of Virginia Electric and Power Company For approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind, pursuant to § 56-58.1:11, §56-46.1, § 56-265.1 et seq., and § 56-585.1 A 6 of the Code of Virginia*, PUR-2021-00142, Doc. Con. Cen. No. 220820117, Final Order at 36-37 (Aug. 5, 2022) and *Application of Virginia Electric and Power Company For approval and certification of electric transmission facilities: 230 kV Lines #2113 and #2154 Transmission Line Rebuilds and Related Projects*, Case No. PUR-2021-00010, 2021 S.C.C. Ann. Rep. 384, 388.

In accordance with the above findings, I ***RECOMMEND*** that the Commission enter an order that:

1. ***ADOPTS*** the findings in this Report;

2. ***GRANTS*** the Company's Application to construct the proposed facilities as specified above;

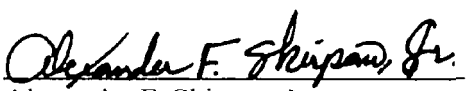
3. ***APPROVES*** the Company's request for a certificate of public convenience and necessity to authorize construction of the proposed facilities as specified; and

4. ***DISMISSES*** this case from the Commission's docket of active cases.

COMMENTS

The parties are advised that, pursuant to Rule 5 VAC 5-20-120 C of the Commission's Rules and § 12.1-31 of the Code, any comments to this Report must be filed on or before March 13, 2023. To promote administrative efficiency, the parties are encouraged to file electronically in accordance with Rule 5 VAC 5-20-140 of the Commission's Rules. If not filed electronically, an original and fifteen (15) copies must be submitted in writing to the Clerk of the Commission, c/o Document Control Center, P.O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a certificate to the foot of such document certifying that copies have been served by electronic mail to all counsel of record and any such party not represented by counsel.

Respectfully submitted,



Alexander F. Skirpan, Jr.
Chief Hearing Examiner

Document Control Center is requested to send a copy of the above Report to all persons on the official Service List in this matter. The Service List is available from the Clerk of the State Corporation Commission, c/o Document Control Center, 1300 East Main Street, First Floor, Tyler Building, Richmond, VA 23219.